

PUGET SOUND (1)

TOPICS (/AREAS) SCIENCE REVIEW (/SCIENCE-REVIEW) SPECIES (/SPECIES) HABITATS (/HABITATS/SHORE-TYPES)

MAPS (/SOUNDSCAPES) ARCHIVE (/SPRINGS/DOCUMENTS/ARCHIVE) BLOGS (/NEWS) FEATURES (/ARTICLES)

Declines in marine birds trouble scientists

Why did all the grebes leave? Where did they go? And what does their disappearance say about the health of the Salish Sea?



(http://www.eopugetsound.org/sites/default/files/topical_article/images/10298390254_d52ab6b16b_b.jpg)

Key takeaways

Many bird species that winter in the Salish Sea are experiencing severe declines.

Close to a third of all bird species in the Salish Sea are classified as "species of concern."

Birds are considered to be good indicators of the health of the ecosystem.

Some seabird declines may be related to declines in forage fish.

The ecosystem is in flux and some species like bald eagles, rhinoceros auklets and some whales actually appear to be on the rise, potentially competing with declining species for food.

In the late summer and early fall, western grebes will flock to the marine waters of the West Coast, where they gather by the thousands to dine on a smorgasbord of small fishes. And for years, masses of wintering grebes were a fixture of the Salish Sea. The waters from the Strait of Georgia in Canada south to Puget Sound in the United States hosted roughly 70% of the species' entire population. Now, though, surveys estimate that only 4% of the population continues to winter here—a decline of 95%. Why did all the grebes leave? Where did they go? And what does their disappearance say about the health of the ecosystem? A group of scientists shared their research at the 2014 Salish Sea Ecosystem Conference.

Salish Sea Currents

(/magazine)

Sponsored by:



(<http://www.epa.gov/pugetsound/>)

PugetSoundPartnership
LEADING PUGET SOUND RECOVERY

(<http://www.psp.wa.gov/>)



2014
Salish Sea
Ecosystem
Conference

(<http://www.wvu.edu/salishseaconference/>)

About this Feature

FEATURE TYPE:

Magazine (/articles?)

field_feature_type_tid(=308)

AUTHOR:

Eric Wagner

POSTED IN EOPS:

07/22/2014

EDITOR:

Joe Gaydos

TAGS:

Biology (/areas/biology), Birds

(<http://www.eopugetsound.org/topics/categories/42>),

Monitoring

(<http://www.eopugetsound.org/topics/categories/127>),

Species and Food Webs

(<http://www.eopugetsound.org/topics/categories/17>),

Marine Habitat

(<http://www.eopugetsound.org/topics/categories/79>),

Species of concern

(<http://www.eopugetsound.org/topics/categories/217>),

Estuarine Habitat

(<http://www.eopugetsound.org/topics/categories/81>),

Nearshore Habitat

(<http://www.eopugetsound.org/topics/categories/80>),

Freshwater Habitat

(<http://www.eopugetsound.org/topics/categories/82>),

Terrestrial Habitat

(<http://www.eopugetsound.org/topics/categories/83>)

Related Resources

Pearson and Hamel, Bird Indicators
(2013)

(http://www.psp.wa.gov/vitalsigns/documents/Pearson%20and%20Hamel%20Bird%20Indicators%202013_Final.pdf)

Salish Sea-reliant Birds

(<http://www.eopugetsound.org/species/custom-lists/142>)

The Salish Sea is vital habitat for 172 species of birds (</species/custom-lists/142>), and with the exception of salmon, there may be no other type of species that occupies a wider variety of environments. Birds—seabirds in particular—provide a critical link between the land and the sea, making them a special interest to Puget Sound recovery efforts (</species/custom-lists/214?field=species-species-tid=42>).

MAPS / GIS (IMAPS) ARCHIVE (CONTENT/DOCUMENT-ARCHIVE) BLOG (NEWS) FEATURES (ARTICLES)

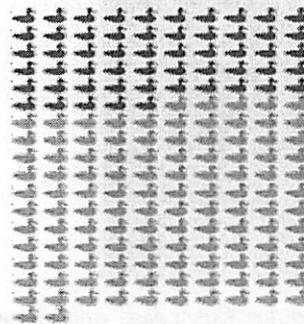
"Seabirds are good biological indicators. Their diet reflects fish populations. They're good indicators of contaminants. And we monitor them just because we care about birds."

— Scott Pearson, WA Dept of Fish and Wildlife

Read more about birds as indicators of ecosystem health in Puget Sound (</articles/marine-and-terrestrial-bird-indicators-puget-sound>).

Timing is everything

[172 species of birds]
32% species of concern in US or Canada



Outwardly, then, some of the signs are troubling. Of those 172 species (</species/custom-lists/142>), close to a third are classified as species of concern (<http://www.eopugetsound.org/species/custom-lists/214?field=species-species-tid=42>) in the U.S. and Canada. Managers would like to reverse that trend, but knowing where to start can be tricky. The Salish Sea's bird species vary dramatically depending on the season, something that makes studying them a challenge. Ironically, that very challenge might also hold a clue to their declines.

In the Salish Sea, when it comes to birds, timing is everything.

In the summer, for example, the region is dominated by species such as common murre, Cassin's and rhinoceros auklets, many of which breed in colonies along the outer coast. Most surveys of these summer birds show little in the way of consistent trends. Some, like the Cassin's auklet, are increasing in number; some, like the common murre, are fairly stable; and some, like the endangered marbled murrelet, continue to decline.

Winter patterns are more consistent and clear. A number of birds that rely on the Salish Sea in winter show a plain trend: down. Scoters are declining. Loons are declining. And, of course, western grebes are almost entirely gone from the region. Why is that?



(</node/21215>)

Related: [Protection Island, a National Wildlife Refuge in the Strait of Juan de Fuca, provides important habitat for seabirds and marine mammals](#) (</articles/protection-island>)

New research

Species of Concern in the Salish Sea:

Birds

(<http://www.eopugetsound.org/species/custom-lists/214?field=species-species-tid=42>)

Related Species

Western Grebe (*Aechmophorus occidentalis*) (</species/aechmophorus-occidentalis>)

Bald Eagle (*Haliaeetus leucocephalus*) (</species/haliaeetus-leucocephalus>)

Common Murre (*Uria aalge*) (</species/uria-aalge>)

Cassin's Auklet (*Ptychoramphus aleuticus*) (</species/ptychoramphus-aleuticus>)

Marbled Murrelet (*Brachyramphus marmoratus*) (</species/brachyramphus-marmoratus>)

Glaucous-winged Gull (*Larus glaucescens*) (</species/larus-glaucescens>)

Humpback Whale (*Megaptera novaeangliae*) (</species/megaptera-novaeangliae>)

Pacific Sand Lance (*Ammodytes hexapterus*) (</species/ammodytes-hexapterus>)

Surf Smelt (*Hypomesus pretiosus*) (</species/hypomesus-pretiosus>)

Pacific Herring (*Clupea pallasii*) (</species/clupea-pallasii>)

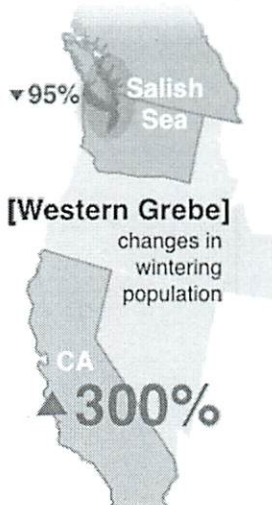
Biologists have suggested a number of reasons, ranging from top-down effects like the recovery of the predatory bald eagle, to bottom-up effects having to do with food availability.

Research presented at the 2014 Salish Sea Ecosystem Conference focused on the role of

forage fish, a favorite prey item of many seabirds. Oil and calorie-rich forage fish such as sand lance, surf smelt and Pacific herring are known for their importance to the food web. Normally an abundant source of sustenance for a wide variety of predators, they have declined significantly over the decades.



(http://www.eopugetsound.org/sites/default/files/topical_articles/images/bald_eagle_2.jpg)



"Half of all herring stocks in Puget Sound are designated as either depressed or low abundance," says Dr. Nacho Vilchis, a former postdoctoral researcher with the SeaDoc Society, "and the same is true for British Columbia."

A study by Vilchis and others shows that wintering bird species in decline are more likely to be specialist feeders of these fish. Computer models from the study show that birds with more diverse diets, like mergansers, or flexible diets, like gulls, are less likely to decrease. This is significant because species that use the Salish Sea only in winter would be expected to be more willing to leave it when conditions become less favorable. Specialists with stronger ties—those that breed here, for example—might try to tough it out. A change in wintering grounds is a likely explanation for most of the disappearances, argues Vilchis.

That appears to be the case with the western grebe. While the overall wintering population has declined by more than half since 1975, the decline means different things to different places: where the Salish Sea wintering population has dropped off almost completely—by 95%—the smaller wintering populations in southern California have increased by an astounding 300%. The grebes have simply shifted their wintering grounds.

Generalists stay, specialists leave

TOPICS (/AREAS) SCIENCE REVIEW (/SCIENCE-REVIEW) SPECIES (/SPECIES) HABITATS (/HABITATS/SHORE-TYPES)

Peter Arcese (an biology professor at the University of British Columbia who was a co-author) on the western grebe paper, says that the grebe's rigid diet explains their new preference for California waters. While Pacific herring in the Salish Sea have declined, Pacific sardine in California have recovered; since 1985, the stock has increased from an estimated few thousand metric tons to 1.42 million in 2007. Disinclined to forage for other prey, western grebes, sensibly, have followed the food they like. "Generalists change their diet," Arcese says. "Specialists leave."

But if the story of the western grebe shows the challenges that specialists face, even those Salish Sea species that are generalists, such as the glaucous-winged gull, are not immune to the shifting fortunes of their environment.

In the early 20th Century, glaucous-winged gulls declined due to intense eggging, when people would collect wild bird eggs en masse to eat. After the practice was banned in the 1920s, they started to recover. However, in the past 30 years, their numbers have begun to drop again. The roots of the decline seem to stem from waning reproduction: between 1962 and 2009, gulls laid fewer eggs each year, and those eggs tended to be smaller. (The smaller the egg from which a chick hatches, the less likely that chick is to fledge, generally.)

Learn more [Effects of Eggging on the Reproductive Success of Glaucous-Winged Gulls](#) Why

(abstract):

[Gulls \(http://www.jstor.org/stable/1521505\)](http://www.jstor.org/stable/1521505)

K. Vermeer, K. H. Morgan, G. E. J. Smith and B. A. York

Colonial Waterbirds

Vol. 14, No. 2 (1991), pp. 158-165

Published by: Waterbird Society

has

egg

production

tailed

off?

Arcese

and

researcher

Louise

Blight

believe

that,

as

with

the

western

grebe,

the

culprit

is

food,

or

its

absence. [Stable](#)

[isotope](#)

[analysis](#)

(http://www.eopugetsound.org/sites/default/files/LKBlight_PhD_G

[20Basin%](#)

[20Gulls_2012.pdf](#)) by

Arcese

and

Blight

of

gull

breast

feathers

from

museum

specimens

dating

back

to

the
1880s
shows
that gulls
are
feeding
at
lower
levels
in
the
food
web
now
than
they
were
in
centuries
past.
Like
the
grebes,
gulls
used
to
forage
for
Pacific
herring.
Unlike
the
grebes,
when
the
herring
disappeared,
the
gulls
stayed.
As
generalists,
they
were
able
to
shift
their
diet
to
krill.
But
krill
don't
provide
anything
close
to
the
nutritional
content
of
herring,
and
gulls

PUGET SOUND (/)

TOPICS (/AREAS) SCIENCE REVIEW (/SCIENCE-REVIEW) SPECIES (/SPECIES) HABITATS (/HABITATS/SHORE-TYPES)
MAPS / GIS (/MAPS) ARCHIVE (/CONTENT/DOCUMENT-ARCHIVE) BLOG (/NEWS) FEATURES (/ARTICLES)

appear
to
be
travelling
a
price
for
that.

PUGET SOUND (/)

MAPS / GIS (/MAPS) ARCHIVE (/CONTENT/DOCUMENT-ARCHIVE) BLOG (/NEWS) FEATURES (/ARTICLES)

Turning a corner?

Not all the news is dire. Despite the downturns, Arcese suspects that the Salish Sea "might be turning a corner," after years of low overall biological productivity. Rhinoceros auklets are returning, as are humpback whales and minkes, the former having disappeared due to whaling in the early 1900s. These whales, in turn, might be competing with birds for forage fish. And gulls, for their part, might not be declining just because of food; bald eagles, whose recovery has occurred concurrently with the gull decline, might be suppressing the numbers of those birds that thrived in their absence.

Learn more [Food Web Structure and Trophic Control in Central Puget Sound](http://www.mypugetsound.net/index.php?option=com_docman&task=doc_view&gid=879&Itemid=238)

(full text): http://www.mypugetsound.net/index.php?option=com_docman&task=doc_view&gid=879&Itemid=238

Chris J. Harvey, Gregory D. Williams, Phillip S. Levin

Estuaries and Coasts. 01/2012; 35(3).

DOI: 10.1007/s12237-012-9483-1

http://www.eopugetsound.org/sites/default/files/topical_articles/in

Could
the
Salish
Sea
ecosystem
simply
be
returning
to
some
earlier
norm,
with
hungry
whales
and
marauding
eagles,
and
seabirds
in
between?
Or
do
the
range
shifts
of
grebes
and
the
declines
of
gulls
herald
a
new
normal?
For
Arcese,
these
are

not
necessarily
the
TOPICS (/AREAS) SCIENCE REVIEW (/SCIENCE-REVIEW) SPECIES (/SPECIES) HABITATS (/HABITATS/SHORE-TYPES)
helpful
MAPS / GIS (/MAPS) ARCHIVE (/CONTENT/DOCUMENT-ARCHIVE) BLOG (/NEWS) FEATURES (/ARTICLES)
questions.
Even
if
people
speak
in
terms
of
balance
or
equilibrium,
the
ecological
communities
that
may
or
may
not
be
rebalancing
themselves
do
so
in
an
environment
vastly
different
from
what
it
once
was.
More
important
is
to
understand
the
health
of
the
ecosystem
in
its
present
state,
regardless
of
how
it
came
to
be
the
way
it
is.
That

means
watching
the

PUGET SOUND [\(1\)](#)

[TOPICS \(/AREAS\)](#) [SCIENCE REVIEW \(/SCIENCE-REVIEW\)](#) [SPECIES \(/SPECIES\)](#) [HABITATS \(/HABITATS/SHORE-TYPES\)](#)

[MAPS / GIS \(/MAPS\)](#) [ARCHIVE \(/CONTENT/DOCUMENT-ARCHIVE\)](#) [BLOG \(/NEWS\)](#) [FEATURES \(/ARTICLES\)](#)

he

says,

something

scientists

will

be

doing

intensely

in

coming

years

as

they

continue

to

measure

the

health

of

the

Salish

Sea.

Photo gallery

View photos of species mentioned in this story.



http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/Western_Grebe.jpg



[http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/common%](http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/common%20murre.jpg)



[20murre.jpg](http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/cassin%20murre.jpg)

[http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/cassin%](http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/cassin%20murre.jpg)



[27s%20auklet.pg](http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/marbled_murrelet.jpg)

http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/marbled_murrelet.jpg



http://www.eopugetsound.org/sites/default/files/colorbox_slideshow/pacific_loon.jpg

Learn more **PUGET SOUND** (1)

About the scientists **Puget Sound Vital Signs**
[TOPICS \(/AREAS\)](#) [SCIENCE REVIEW \(/SCIENCE-REVIEW\)](#) [SPECIES \(/SPECIES\)](#) [HABITATS \(/HABITATS/SHORE-TYPES\)](#)

[MAPS / GIS \(/MAPS\)](#) [ARCHIVE \(/CONTENT/DOCUMENT-ARCHIVE\)](#) [BLOG \(/NEWS\)](#) [FEATURES \(/ARTICLES\)](#)

Scott Pearson, Ph.D.

(http://wdfw.wa.gov/conservation/research/staff/pearson_scott.html)

Senior Research Scientist and Westside Research Team Leader, Washington Department of Fish and Wildlife. Dr. Pearson joined WDFW in 2000. His research is focused primarily on assessing population status and trends, diet, habitat use and quality, evaluating the effectiveness of conservation efforts, and identifying mechanisms responsible for population declines. Scott has been studying avian ecology for over 20 years. Scott's previous research focused on evaluating the importance of various food resources to migrant and over-wintering birds, the behavioral and ecological aspects of hybridization in warblers, and identifying the habitat features important to bird reproduction and survival. After completing his postdoc at the University of Florida, Scott worked as the Westside Natural Areas Ecologist for Washington Department of Natural Resources. As an associate faculty member at the University of Washington, Scott works with graduate students and faculty to help address questions of management concern.

Ignacio Vilchis, Ph.D.

(<https://scripps.ucsd.edu/profiles/ivilchis>)

Researcher, Scripps Institution of Oceanography. Nacho Vilchis has spent most of his life in or around the Pacific Ocean. Nacho completed his undergraduate studies at the University of San Diego, his first graduate program at the Universidad Catolica de Chile, and earned his Ph.D. from at the Scripps Institution of Oceanography in La Jolla California. He's spent thousands of hours surveying underwater in kelp forests in California and Chile, and months at sea studying tropical and temperate seabirds in open oceans off the Hawaiian archipelago, Clipperton atoll, Malpelo Island and the Galapagos Islands. He now works as a researcher at Scripps Institution of Oceanography.

Peter Arcese, Ph.D.

(<http://profiles.forestry.ubc.ca/person/peter-arcese/>)

Professor, Forest Renewal BC Chair In Conservation Biology, University of British Columbia. Peter Arcese is FRBC Chair of Applied Conservation Biology in the Department of Forest and Conservation Sciences and Faculty of Forestry. Peter works on the ecology and genetics of animals and plants, the persistence of small populations, and the design and management of nature reserves. Peter graduated in Zoology from the University of Washington and completed MSc and PhD degrees in Zoology at UBC. He studied as a NATO then NSERC post-doc in Serengeti National Park, Tanzania, from 1987-91 with A.R.E. Sinclair, producing the second of five co-edited books on the dynamics and conservation of the Serengeti Ecosystem and many papers on the natural history, behavior and population dynamics of African ungulates and the economics of community conservation and anti-poaching programs. Peter was Asst. Professor in the Department of Wildlife Ecology, University of Wisconsin, from 1992-98, where he won an NSF Young Investigator award. Peter's labs have include 11 post-doctoral fellows and 28 graduate students, most of whom now teach, conduct research or work in conservation or genetics. Peter is a Fellow and former Councilor of the American Ornithologists Union and an editor of the Journal of Avian Biology. He has published over 100 research papers and books with more than 100 co-authors and currently focuses on the demography and genetics of plant and animal populations of the Pacific Coast, the efficient design of nature reserves, and the conservation and restoration of native ecosystems.

ENCYCLOPEDIA OF PUGET SOUND (/)

About the Author:

TOPICS (/AREAS) SCIENCE REVIEW (/SCIENCE-REVIEW) SPECIES (/SPECIES) HABITATS (/HABITATS/SHORE-TYPES)

Eric Wagner writes about science and the environment from his home in Seattle, where he

lives with his wife and daughter. His writing has appeared in Smithsonian, Orion, and High

Country News, among other places.

[Log in \(/user/login?destination=node/155273%23comment-form\)](/user/login?destination=node/155273%23comment-form) to
post comments

Search

[About \(/about\)](/about)

[FAQ \(/content/frequently-asked-questions\)](/content/frequently-asked-questions)

[Editorial Board \(/content/editorial-board\)](/content/editorial-board)

[Contact \(/contact\)](/contact)

[Login \(/user\)](/user)

[Twitter](https://twitter.com/eopugetsound)

[\(/https://twitter.com/eopugetsound\)](https://twitter.com/eopugetsound)

[Like us on Facebook](https://www.facebook.com/pages/Encyclopedia-of-Puget-Sound/245252972207545)

[\(/https://www.facebook.com/pages/Encyclopedia-of-Puget-Sound/245252972207545\)](https://www.facebook.com/pages/Encyclopedia-of-Puget-Sound/245252972207545)

 [\(/rss.xml\)](/rss.xml)

© 2012-2014. Encyclopedia of Puget Sound (/) is published by the Puget Sound Institute (<http://www.pugetsoundinstitute.org/>) at the UW Tacoma Center for Urban Waters (<http://www.tacoma.uw.edu/center-urban-waters>).

[Home \(/\)](#) | [Contact \(/contact\)](/contact) | [UW Privacy \(http://www.washington.edu/online/privacy/\)](http://www.washington.edu/online/privacy/) | [UW Terms of Use \(http://www.washington.edu/online/terms/\)](http://www.washington.edu/online/terms/)

[xhtml \(http://validator.w3.org/check?uri=referer\)](http://validator.w3.org/check?uri=referer) | [css \(http://jigsaw.w3.org/css-validator/check/referer?profile=css3\)](http://jigsaw.w3.org/css-validator/check/referer?profile=css3) | [508 \(http://wave.webaim.org/refer\)](http://wave.webaim.org/refer)

[About](#) | [FAQ](#) | [Editorial Board](#) | [Contact](#) | [Login](#)

INSTITUTE

W

PUGET SOUND

Protection Island

Protection Island, a National Wildlife Refuge in the Strait of Juan de Fuca, provides important habitat for seabirds and marine mammals.



http://www.eopugetsound.org/sites/default/files/topical_article/images/protection_island_aquatic_reserve_wa_%20NOAA_0.jpg

Protection Island. Image courtesy of NOAA.

Protection Island became a National Wildlife Refuge on October 15, 1982. The 370-acre island, located in the Strait of Juan de Fuca at the mouth of Discovery Bay, hosts 72% of the nesting seabirds in Puget Sound, including an estimated 17,000 pairs of rhinoceros auklets. Around 1000 harbor seals use the island, as does one of the last remaining nesting colonies of tufted puffins in the region.

The island is closed to the public, although boat tours regularly pass nearby for wildlife viewing. The Washington Department of Fish and Wildlife manages the 48-acre Zella M. Schultz Seabird Sanctuary, located on the west end of the island. A team of researchers from the Washington Department of Fish and Wildlife, the University of Washington, University of Puget Sound and NOAA are currently [conducting burrow surveys](http://wdfw.wa.gov/conservation/research/projects/seabird/rhinoceros_auklet/) to determine reproductive success of the island's population of rhinoceros auklets. Scientists are also studying the auklets' diet. More than 95% of the North American rhinoceros auklet population breeds in Washington, British Columbia, and southern Alaska, and the Protection Island colony is one of the largest.

Nesting seabirds require habitat free of predators and human disturbance. Auklets nest in burrows, so they will only colonize areas with suitable soil types. During the breeding season (March to late September), birds remain close to the colony, but they range widely throughout the rest of the year. The birds are relatively long-lived, with low productivity, which makes nesting habitat a primary concern in maintaining the health of the population. Black-tailed deer, first recorded on the island in 1991, are native to the region but can damage burrows by trampling or bedding down on the burrow entrance. Recent estimates place the population at around 70 deer, which represents fairly high density for the size of the island.

Aircraft and boat disturbance is also a concern. Cormorants, which also nest on the island, will abandon their nests if disrupted. The Fish and Wildlife Service enforces a 200-foot buffer around the island.

Island
habit
at
consi
sts
of
steep
bluff
surro
undi

ng a
plate
au.
Sedi
ment
depo
sits
have
creat
ed
two
long
sand
and
grav
el
spits,
one
on
the
sout
hwest
t
side
of
the
island
and



Tufted puffin (Fratercula cirrhata) off the coast of Protection Island. Image courtesy of Peter Davis, US Fish and Wildlife Service.

(http://www.eopugetsound.org/sites/default/files/topical_articles/images/Puffin%20off%20Protection%20Island%20-%20Peter%20Davis%20USFWS_0.jpg)

one on the southeast. On the plateau, grassland dominates, but there is also a small amount of mixed conifer forest, including Pacific madrona, shore pine, grand fir, and Douglas maple. Farming, grazing, and development, beginning with early settlement in the 1800s, introduced many exotic species, and surveys in 2008 found only 41 percent of transects populated by native species. In the mid-1900s, at least two major fires burned a large percentage of the island, reducing the amount of forest and changing the composition.

Eleanor Stopps, a Jefferson County resident and activist, is famous for her work to preserve habitat on Protection Island, which was threatened by development in the 1960s. Stopps raised \$50,000 to buy lots on the island and lobbied for support from locals and national conservation organizations. The Nature Conservancy gave her its highest award, the Oak Leaf, in 1992.

Sources and Additional Information:

U.S. Fish and Wildlife Service (http://www.fws.gov/pacific/planning/main/docs/WA/Protection%20Is/PI_SJI_NWRs_CCP_Ch_4_thru_5.pdf)

Protection Island Refuge Profile (<http://www.fws.gov/refuges/profiles/index.cfm?id=13533>)

Washington Department of Fish and Wildlife (http://wdfw.wa.gov/conservation/research/projects/seabird/rhinoceros_auklet/)

Port Townsend Leader (<http://www.ptleader.com/main.asp?SectionID=36&SubSectionID=55&ArticleID=31337>)

Port Townsend Marine Science Center (<http://www.ptmac.org/PI-story.html>)

Somers, Elaine

From: Allnutt, David
Sent: Thursday, November 20, 2014 9:37 AM
To: Reichgott, Christine; Somers, Elaine
Subject: FW: Should U.S. Government Kill Thousands of Birds to Save Salmon?

Cormorants in the news...



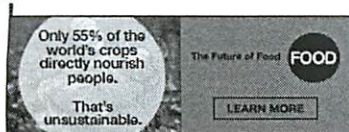
R. David Allnutt, Director
Office of Ecosystems, Tribal and Public Affairs
U.S. EPA, Region 10
1200 Sixth Avenue, Suite 900, Mail Stop ETPA-202-1
Seattle, Washington 98101-3140
(206) 553-2581

From: Hough, Palmer
Sent: Thursday, November 20, 2014 9:33 AM
To: Allnutt, David; Brown, Leah; Dean, Heather; Dunbar, Bill; Ebersole, Joe; Fauver, Becky; Fertik, Rachel; Fordham, Tami; Frithsen, Jeff; Godsey, Cindi; Holsman, Marianne; Hough, Palmer; Hunter, Christopher; Kader, Hanady; McKenna, Elizabeth; Nalven, Heidi; Palomaki, Ashley; Parkin, Richard; Schofield, Kate; Smith, Judy; Soderlund, Dianne; Srinivasan, Gautam; Steiner-Riley, Cara; Szerlog, Michael; Thiesing, Mary; Young, Margo
Subject: FW: Should U.S. Government Kill Thousands of Birds to Save Salmon?

Thankfully this was not proposed as a compensation measure for the mine. What a distressing practice.

Should U.S. Government Kill Thousands of Birds to Save Salmon? A growing trend in killing some species to protect others is drawing opponents.

<http://news.nationalgeographic.com/news/2014/11/141118-shooting-cormorants-columbia-river-salmon-endangered-species-environment/>



• News • The Magazine • Maps • Science • Education • Games • Events • Blogs • Movies • Explorers • Apps • Trips •

National Geographic News

Should U.S. Government Kill Thousands of Birds to Save Salmon?

A growing trend in killing some species to protect others is drawing opponents.



Some 60,000 shorebirds, including nearly 30,000 double-crested cormorants, nest on East Sand Island, at the mouth of the Columbia River in Oregon. The U.S. Army Corps of Engineers proposes to kill 16,000 cormorants, which it says are eating too many salmon and steelhead trout.

PHOTOGRAPH BY JIM WILSON, THE NEW YORK TIMES/REDUX

By Isabelle Groc
for National Geographic

PUBLISHED NOVEMBER 18, 2014

EAST SAND ISLAND, Oregon—Alexa Piggott is crawling through a dark, dusty, narrow tunnel on this 62-acre island at the mouth of the Columbia River. On the ground above her head sit thousands of seabirds. Piggott, a crew leader with Bird Research Northwest, is headed for an observation blind from which she'll be able to count them.

It's September, and the low-lying island is relatively quiet. Most of the fledglings and their parents have left, and only a few thousand pelicans and cormorants remain. But in the

spring, 60,000 birds come here to nest. East Sand Island is home to the largest breeding colony of Caspian terns in the world and the largest colony of double-crested cormorants in North America—nearly 15,000 pairs.

Share

Like 17k

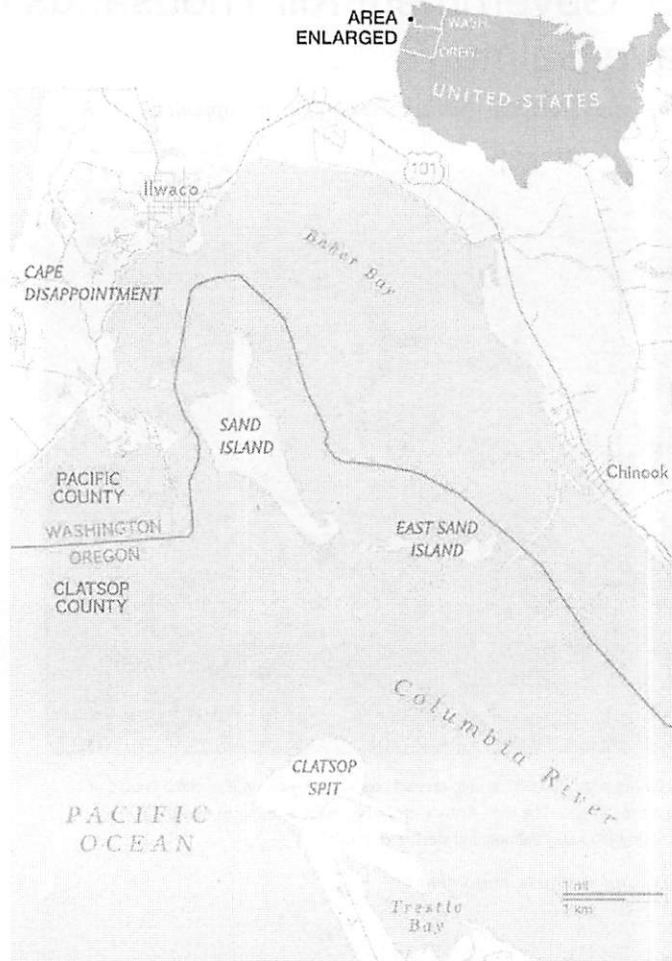
33

8+1 11

Share

Email

More »



NG STAFF: CHLOE QUINN

That's too many cormorants, says the U.S. government. Starting next spring, it proposes to shoot more than half of the iridescent black birds, on the grounds that they're eating too many fish.

The cormorants eat mostly anchovies—but they also dispatch as many as 20 million salmon and steelhead trout smolts every year. The nesting season of double-crested cormorants on East Sand happens to overlap with the migration of the juvenile fish down the Columbia to the Pacific.

"They're eating over 6 percent of all the wild steelhead that are passing through the lower Columbia River," says Ritchie Graves, a fisheries biologist with the

National Oceanic and Atmospheric Administration. They also consume more than 2 percent of the yearling chinook salmon.

Besides being commercially valuable, both fish are on the Endangered Species List, and that's what's forcing the U.S. Army Corps of Engineers to act. The corps owns and manages East Sand Island; indeed, it created the bird colony when it expanded the island with dredging spoils back in the 1980s.

Last summer the corps announced a proposal to kill 16,000 double-crested cormorants on the island over a period of four years. It also proposes to remove enough sand to inundate the nesting area of the cormorants, so that birds that leave won't come back. The goal is to reduce the double-crested cormorant population on East Sand Island to about 5,600 breeding pairs.

The move is part of a growing trend toward what wildlife managers sometimes call "lethal control"—killing one species of animal to protect another.

Lethal control of natural predators "is slowly becoming a dominant conservation strategy," says Michael Nelson, a professor of environmental ethics and philosophy at Oregon State University, in Corvallis. "We are embracing this as the first line of defense."

As the strategy is playing out at local levels, it is drawing opponents. That includes Piggott, who is dismayed by the corps' plan to shoot cormorants.

"We have built a level of trust between the researchers and the birds that nest around the blinds," she says. "It makes me sad and angry that we are breaking this relationship and using the blinds against the birds. They have no idea what's coming."



This juvenile double-crested cormorant lives on East Sand Island.

PHOTOGRAPH BY ISABELLE GROG

Picking Species to Save

For most wildlife managers, lethal control is probably an uncomfortable choice, but it's one they're finding themselves forced into more often these days—forced by humanity's expanding impact on nature to meddle with it some more. "With society having a bigger and bigger footprint, [the practice of lethal control] can only increase," says Michael Scott, an ecologist at the University of Idaho, in Moscow.

Climate change, which causes animals to move into new ranges and interfere with one another in new ways, can only exacerbate the dilemma, says Bob Sallinger, conservation director of the Audubon Society of Portland. "How much manipulation of these species do we want to do to protect one from another?" Sallinger asks.

We already do quite a lot. Starting in the 1970s, thousands of brown-headed cowbirds were killed in Michigan to keep them from invading the nests of endangered Kirtland's warblers. Last year the U.S. Fish and Wildlife Service began killing up to 3,600 barred owls in Washington, Oregon, and northern California to save northern spotted owls.

RELATED: "Shooting Owls to Save Other Owls"

In Idaho and Nevada, meanwhile, human encroachment on sagebrush habitat has boosted populations of the common raven at the expense of the imperiled greater sage-grouse. In a landscape devoid of tall trees, power line and communication towers now provide perches from which ravens can swoop down on sage-grouse nests and eat the eggs.

"When you put a tall structure in the environment, you have just provided a very strong advantage to that predator in finding its prey," says Peter Coates, a research wildlife biologist with the U.S. Geological Survey. The state of Idaho is now considering poisoning thousands of ravens to reduce the pressure on the sage-grouse.

In Alberta, woodland caribou and wolves rarely crossed paths until pipelines and logging roads made it easier for wolves to infiltrate caribou country. Since then, most of the caribou herds in the province have dramatically declined.

"We are at a turning point, where without some aggressive help in the next few years, we don't have much hope of keeping any of the herds around," warns biologist Stan Boutin of the University of Alberta, in Edmonton. In the past five years, hundreds of wolves have been killed to save one of the Alberta herds, known as Little Smoky.

Wolves themselves were almost eliminated from the United States until they received protection under the Endangered Species Act. As wolf populations recover and create new conflicts with human activities, says the University of Idaho's Scott, the animals have been allowed to occupy less than 5 percent of their historical range.

"That is the story that is playing out," Scott says. "How much is enough? How much are we willing to give up to nature?"

Scapegoat Bird?

In the case of cormorants, it seems, not so much. In the eastern United States, double-crested cormorants have often been blamed for declines in fish populations. More than a half million birds have been destroyed under two

different "depredation" orders since 1998, reports Linda Wires, author of *The Double-Crested Cormorant: Plight of a Feathered Pariah*.

In Oregon, the conflict between double-crested cormorants and salmon goes back to the hydropower dams on the Columbia, which interfered with fish migration.

"The cormorants were there long before the dams were, and they coexisted perfectly fine with the fish," says Sallinger. "It's the dams and the habitat destruction that have truly brought things out of whack. "

The Army Corps of Engineers has a long history with the problem on the Columbia—and not just with cormorants. Caspian terns also eat a lot of young salmon. In the 1980s the corps actually relocated an entire colony of terns to East Sand Island from Rice Island, another dredge—spoil island 16 miles (26 kilometers) upriver.

The expectation was that the birds would eat fewer salmon at the downriver location. That's not what happened, and the corps has since tried to move part of the East Sand tern colony to newer man-made islands in Oregon and northeastern California.

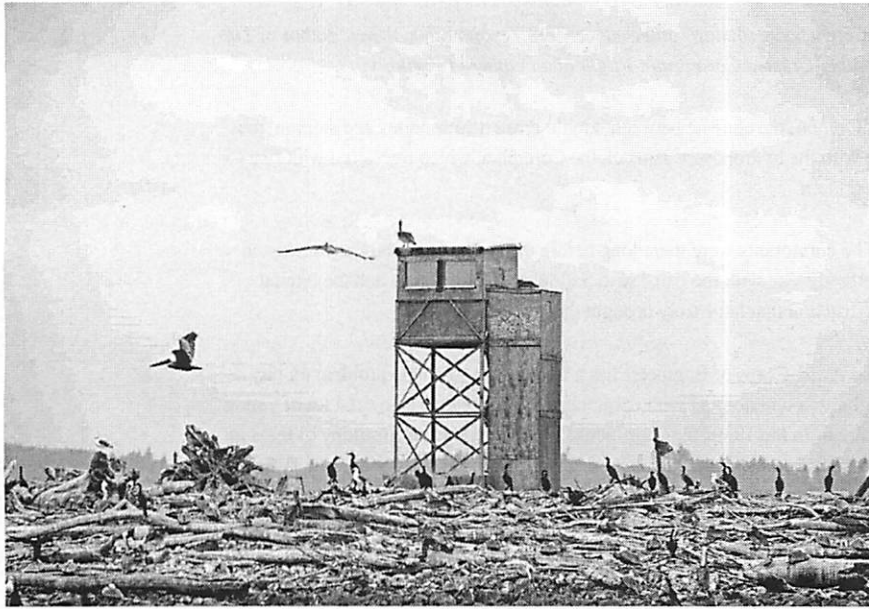
Why not move the cormorants too, opponents of the culling plan ask? "We don't want to just move the problem somewhere else in the region where the cormorants would begin to prey on other endangered fish," says Joyce Casey, chief of the corps' environmental resources branch in Portland. The Caspian terns, she explains, are "more amenable to our manipulation," whereas with cormorants, "we can't tell the birds where to go."

RELATED: "Killing Wildlife: The Pros and Cons of Culling Animals"

Faced with that uncertainty, the corps considers killing the cormorants the least risky solution—as well as the cheapest and quickest one.

Daniel Roby of Oregon State University, who has studied the impact of birds on salmon around East Sand Island for the past 18 years, disagrees: "We know enough about cormorant behavior that we think we can predict where the birds would show up."

Roby thinks the East Sand cormorants could be dispersed by restricting their nesting habitat. He and his team have done experiments in which they allowed cormorants to nest only in a fenced area and actively hazed and destroyed the nests of birds that settled outside the fence. "There are ways of resolving this issue that don't involve scapegoating the birds," he says.



An observation blind on East Sand Island may become a hunting blind—a good spot from which to cull double-crested cormorants—next spring.

PHOTOGRAPH BY ISABELLE GROC

A Beleaguered Population

Though the East Sand Island colony of double-crested cormorants has grown exponentially in recent years, the overall population in western North America is an order of magnitude smaller than the ones in the interior and eastern United States. From British Columbia to southern California there are only 31,200 breeding pairs. The proposed culling on East Sand Island would reduce the entire western population by 25 percent.

Other cormorant colonies in coastal Washington and British Columbia have been declining due to habitat loss, human disturbance, and predation by eagles. In British Columbia, double-crested cormorants have been designated a species of special concern. In California, the Salton Sea cormorant colony, the second largest in western North America, collapsed last year. "If you look at the current status of cormorant colonies in western North America, the future is not so bright," says Roby.

It's also not clear, opponents argue, that the culling would help the salmon and steelhead much. Other lethal removal programs in the region have yet to demonstrate success.

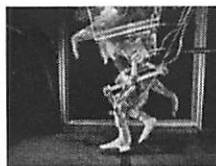
In recent years, for instance, California sea lions have been swimming 145 miles up the Columbia River to the Bonneville Dam, where they prey on chinook salmon that crowd around the fish ladder on their way upstream to spawn. Wildlife managers first tried to scare away the sea lions. But since 2008 they've killed 70 of the animals.

Now fewer California sea lions are showing up at the dam—but more Steller sea lions, which also eat salmon, are coming in. "Things would probably be worse without the program, but it is not the silver bullet," says Robert Stansell, a fish biologist with the Army Corps of Engineers. This particular population

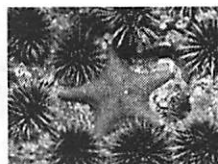
of Steller sea lions was taken off the Endangered Species List just last year. So far no one has proposed killing any of the ones at Bonneville.



Should U.S. Government Kill Thousands of Birds to Save Salmon?



Monkeys Steer Wheelchairs With Their Brains



Why Are Millions of Starfish 'Melting'?



North America's Rarest Mammal May Bounce Back



Are Dangerous Spiders Hiding in Your Fruit?



How Did Porcupine Repel 17 Lions?

21 comments

- livefyre

Sign in

82 people listening



	+ Follow	Share	Post comment as...

Newest | Oldest | Top Comments



bradford cutler

5 hours ago

No, they need to shoot the brainless (figuratively) US army corps engineer officials that are damming up all the rivers preventing the salmon runs and successful reproduction to take place and creating the problem in the first place. Create the problem and then blame the wildlife that has been in balance with salmon for millions of years. Are you kidding me? What morons we have here.

1 Like Reply



Keith Cameron

5 hours ago

If it comes down to people eating too many fish or Birds eating too many fish, I gotta side with the people.

Like Reply



Sandra Simpson

19 hours ago

Leave them alone!!! Stop messing around! Love the poem Robbie Edwards posted!

Like Reply



Tanya Sharpe

21 hours ago

All I can say is oh boy, where will this beautiful earth and all living be in the next generations with our governments, This planet is going to nothing but pollution, pipelines and godly buildings and technology:(Soon there will be no

water, no trees, no nature, there will be us in utter dismay all because the governments greed are they in the best interest of the people????? How I wish someday, someday all the good will be wrapped onto one planet and evil on another.....

Like Reply

**Robbie Edwards**

23 hours ago

There was an old woman who swallowed a fly,
I don't know why she swallowed a fly,
Perhaps she'll die.

There was an old woman who swallowed a spider,
That wriggled and jiggled and tickled inside her,
She swallowed the spider to catch the fly,
I don't know why she swallowed the fly,
Perhaps she'll die.

There was an old woman who swallowed a bird,
How absurd! to swallow a bird,
She swallowed the bird to catch the spider,
That wriggled and jiggled and tickled inside her,
She swallowed the spider to catch the fly,
I don't know why she swallowed the fly,
Perhaps she'll die..

I think you get the picture. Humans cause their own problems then try to swallow a fix for the problems they create.

2 👍 Like Reply

**Ellen Anderson**

1 day ago

At the Wildlife Center of the North Coast, we have rehabbed many cormorants. By far, these birds are the brightest, most curious birds we work with. Such personalities. They so deserve to live. Period.

If you have read the original US Army Corps of Engineers proposal, you would learn that they have tried many things to discourage the cormorants but the birds always seem to struggle and survive. Killing 16,000 of them seems a ludicrous waste of our tax dollar and so traumatizes the birds that somehow DON'T get shot dead as they attempt to raise their very young in the spring.

1 👍 Like Reply

**Mary Finelli**

1 day ago

"fishers, fish farmers, and politicians erroneously blaming cormorants for the consequences of overfishing, habitat destruction, and short-sighted resource management... without the killing accomplishing any of the alleged ecological objectives behind it."

<http://www.animals24-7.org/2014/08/04/the-double-crested-cormorant-plight-of-a-feathered-pariah/>

Like Reply

**Harry McGrath**

1 day ago

Basically a summary of this

"We are killing so many fish we need to find a way to scape goat the blame onto something other than humans. Lets kill everything that eats fish so that we can continue to eat a ridiculous amount of fish in an unsustainable way! Or at least for a little while longer till we have killed them ALL"

2 👍 Like Reply

**Jay Morgan**

1 day ago

Should Feds kill more humans to save the world?

2 👍 Like Reply

**Lori Ogozalek**

1 day ago

Humans are the problem, not nature. WE are the imbalance, not the cormorants.

2.5.2 Like Reply

**Sustainable Jeff**

1 day ago

seriously? I stopped reading after "6%". How about we put water back into the rivers and stop eroding the land and fix 80% of the problem?

1.1 Like Reply

**Dale Rys**

1 day ago

yes...yes..why dont we go around killing every living thing we see fit ??

1.2 Like Reply

**Theo Garus**

2 days ago

Messing with mother nature only gets things out of balance! Any attempt to correct one imbalance, only creates an other imbalance. No matter what we do, at the end mother nature wins. Stop meddling and there would be no imbalance! It is very likely that salmon farming is killing more wild salmon than all its predators combined.

2.5.2 Like Reply

**susan ilnvllle**

2 days ago

@Theo Garus Exactly!

Like Reply

**C. Dufour**

2 days ago

There is that awkward little problem that the biggest predator of salmon is the bald eagle. but of course the government can't shoot them..

Like Reply

**Derik Brenner**

2 days ago

Why don't they reduce the population of the real source of the problem... humans themselves! Would that be acceptable??

3.1.1 Like Reply

**Mathieu Langlois**

1 day ago

@Derik Brenner I wouldn't go that far ;) but if everyone strives for conservation, a change will occur. If less electricity was used or solar panels installed, maybe we could take down that dam. That would make a change.

Like Reply

**Jan K.**

2 days ago

Make situation tougher during all these years for fish, then blame it on birds and try to play God with slaughtering them. Humanity in a nutshell.

6.1.1 Like Reply

**kenneth byrne**

2 days ago

reminds me a time wen native americans were in the way.the US gov.used the same tactics.we fished that river for more than 4000 yrs.our way of life wasnt profitable.millions of buffalo dont kill more than u need.millions of salmon dont tale more than u need.turning the rivers into profit making machines for PG+E.w/no consideration for the wildlife.fishing w/nets that r miles long.leaving old nets in the water that kill everything they come into contact with.now we want to blame the birds for a problem we created. the birds have no voice in the matter.like the poorest americans the rich will decide the best way to profit.the birds r there because they r running out of food. we need to clean up the mess we made of the ocean,rivers.it looks like it may be to late. if we dont try an now the fragile food chain will be unrepairable.if we're goin to kill the birds u better eat them. to bad we killed all the fox eagles hawks that were the natural enemy.im sry we dont have the answer how to fix wat u destroyed. we did try to tell US gov not to destroy the salmon w/dams long ago.

6.1.1 Like Reply

**Mathieu Langlois**

2 days ago

The dam is responsible for the decline of those fishes. Why can't they make better passes where less fishes can be preyed on? It would be so much

better than killing such a great number of Cormorants. The root of the problem isn't the bird, and if you tackle a problem, you *always* go at the root, or else it's never cured.



5   Like Reply



LEE HAI

2 days ago

In my view, the number one decline of the fish population is environmental degradation, pollution and over fishing. People are the number one invasive species, which should remind and humble us that our way of life is way out of balance with the whole, and should give us pause before we choose to implement our cleverly learned schemes in asking ourselves 'Is what I am doing an expression of my connection with the whole?' or 'Is what I am doing a further symptom of my disconnection with the whole?'

7   Like Reply

Powered by Livefyre

© 1996-2014 National Geographic Society. All rights reserved.